

# PARFAIT Round 8

Princeton and Columbia

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# 1 Princeton and Columbia Tossups, Round 8

1. Months before the publication of his thesis on cyanoacetic and malonic acids, he worked independently of Joseph LeBel to produce a pamphlet theorizing about tetrahedrally-bonded, asymmetrical carbon atoms; a work that pioneered the field of stereochemistry. He lent his name to an equation that can be used to relate molar concentration to osmotic pressure or to relate the equilibrium constant to temperature, a product of his conclusion that similar rules govern the behavior of ideal gases and that of dilute solutions. FTP, name this Dutch chemist who also lent his name to a “factor” used in solution chemistry equations.

**Answer:** Jacobus Henricus van't Hoff

2. This novel makes heavy use of the German adage “Einmal ist keinmal,” or “once is never.” It examines the complex relationships between the lovers Franz and Sabina, who have a dictionary of misunderstandings, Sabina and Tomas, the anti-communist artist and a surgeon, and Tomas and Tereza, the libidinous surgeon and his faithful wife. Parmenides’ dualistic philosophy divides the world into pairs like good and evil, light and dark, being and nonbeing, lightness and weight. Parmenides says weight is negative, but the novel questions this, arguing that lack of importance makes life harder to live. FTP, identify this best-known work of Milan Kundera.

**Answer:** The Unbearable Lightness of Being or Nesnesitelná Lekhost Byti

3. He was once heard to remark “I don’t say that I will fail any member of a sorority or fraternity, but no member of such an organization has ever yet passed one of my courses.” In his most famous work, he argued that wealthy people are willing to spend a great deal on trivial items, so long as the purchases will reinforce their social standing. FTP name this Norwegian-American economist, author of *The Theory of the Leisure Class*, who coined the term “conspicuous consumption”.

**Answer:** Thorstein Veblen

Fix More real clues

4. The idea became well known in the 1930s when three theorists, notably Theodor Adorno, held that it represented the Marxist False Consciousness in that it misled the proletariat in seeing art in a capitalist society. The word itself sounds like and may very well be related to a German verb meaning to scrape up mud from the streets, but more likely it comes from the verb that means to make cheap. Examples might include the paintings of Thomas Kinkade, the music of ABBA, or the architecture of Las Vegas. FTP, identify this German term, used often as the antonym to avant-garde, one that refers to art that is seen as an inferior replication of a pre-existing style.

**Answer:** kitsch

5. Students in his country are required to read his national epic, the *Ruhnama* or *Book of Soul*. He was orphaned extremely young when his father died fighting against Germany in World War II. The rest of his family died in a huge earthquake that demolished Ashkabat in 1948. In 1962 he joined the Communist Party and quickly climbed the ranks, later

becoming the head of the TSSR. Today, he is widely viewed as one of the world's most oppressive dictators, banning such things as operas, lip synching, and gold caps on teeth. FTP, identify this man, the Turkmenbashi and president for life of Turkmenistan.

**Answer: Saparmurat Atayevich Niyazov (prompt on "Turkmenbashi")**

6. Born in Georgia in 1925, her Father died when she was 16. She was good friends with Robert Fitzgerald and lodged with his family in Connecticut beginning in 1949. In 1951 she moved to her Uncle's farm, Andalusia, where she raised and cared for over a hundred peacocks and peahens. Her writing is characterized as "Southern Gothic," a style which relies on grotesque characters. She was also heavily influenced by her Roman Catholic upbringing. FTP name this author of *A Good Man is Hard to Find*.

**Answer: Flannery O'Connor**

7. Tradition holds that Charlemagne granted a charter to the people of this country, with a name believed to mean shrub-covered land, in return for their fighting the Moors. While control over the territory was first given to the count of Urgell, today it is ruled jointly by the Catholic bishop of La Seu d'Urgell and the French President. The official language is Catalan though Spanish and French are also widely spoken in, for ten points, what less than 500 square kilometer nation wedged between Spain and France?

**Answer: Andorra**

8. Polybios records that before this battle, the opposing commanders arranged a meeting to determine whether the conflict could be ended. Any attempt at conference was bound to fail, as the armies were meeting as a result of the Carthaginian breaking of the peace on African soil. FTP name this final battle of the Second Punic War, fought between Hannibal and Scipio, a re-enactment of which goes badly awry in *Gladiator*.

**Answer: Battle of Zama**

9. Hegel makes a distinction between this property in people and in objects, while Heidegger discussed three types of it: present-to-hand (the kind in objects), readiness-to-hand (the kind in tools), and Da-sein (the kind in people). Peter Sellers starred in a philosophically inspired movie with this concept in its title, and the study of it is formally called ontology. For ten points, name this characteristic of existence, linked by Sartre and Heidegger with nothingness and time, respectively.

**Answer: being**

10. Although his father was killed, the Taira clan spared his life and he grew up at Kurama Temple north of Kyoto. When his older brother Yoritomo raised an army to dispute the dominance of the Taira, he joined up. He defeated enemy forces at Ichi-No-Tani and Yashima, and, most notably, at the sea battle of Dan-no-Ura. When he fell out of favor with his brother, he was hunted down and only the heroic action of his retainers, including the Warrior Monk Benkei, gave him enough time to commit Seppuku. FTP name this folk hero of Japan, a member of the Minamoto clan, whose brother Yoritomo founded the Kamakura Shogunate.

**Answer: Minamoto no Yoshitsune**

11. Born in Bretten in 1497 to the armorer of Count Palatine Philip and his wife, this man began studying at the University of Heidelberg while just twelve years old. His first publications were an edition of Terence and a Greek grammar. After these, he moved to Wittenberg where he began focusing his studies on theology and soon met the more famous theologian whose views he would later help codify. For ten points, name this great associate of Martin Luther, who led the Lutheran church after Luther's death.

**Answer:** Philipp Melancthon

12. This act was nearly amended to increase protections for strikers and victims of employer retaliation during the Carter and Clinton administrations, but failed on both occasions because of staunch Republican opposition. Described by the president who vetoed it as a slave labor bill, the veto was nonetheless overridden, thus overturning the protections of the Wagner Act, which preceded it. For ten points, what is this 1947 law, officially known as the Labor-Management Relations Act, which greatly restricted the power of labor unions in America.

**Answer:** Taft-Hartley Act (accept early Labor-Management Relations Act)

13. Although first recognized in the middle ages, it was not until 1872 that its symptoms were systematically recorded, by Moritz Kaposi. While outward symptoms are varied, including photosensitivity, seizures and psychosis, various kinds of anemia, and skin rashes, the cause of the disease seems to be genetic. Many of its ill effects result from the production of antibodies which attack the nuclei of other cells in the victim's body. FTP name this autoimmune disorder, possibly named because the butterfly-shaped facial rash it causes resembles the head of a wolf.

**Answer:** lupus

14. He was credited with the creation of a 365-day calendar after supposedly winning a dice game with the moon for  $1/72^{\text{nd}}$  of its light. This association with the moon led to artistic representations of him as a baboon holding a crescent, as well as his more well-known portrayal as another animal with a beak shaped like that crescent. In modern times, his name has been associated with tarot and mystics such as Aleister Crowley. Usually depicted with the head of an ibis, this is, for ten points, what Egyptian god of wisdom?

**Answer:** Thoth (or anything that sounds like it, e.g., "Thot", "Tahuti", "Tetu", etc.)

15. The occurrence of the inverse version of this effect in CMB is described by the Sunyaev-Zeldovich effect. The experiment that confirmed it employed a molybdenum K-alpha X-ray tube and used a Bragg spectrometer to measure the scattering of the X-rays as they hit a carbon block. Also discovered independently by Peter Debye, this effect relies on conservation of momentum to show how the path of an incident photon shifts after it is scattered. FTP, name this effect that also describes the subsequent decrease in energy and increase in wavelength of a photon when it collides with a loosely-held electron.

**Answer:** Compton effect

16. Its composer, born as Alexandre-César-Léopold, was a French child prodigy who entered the Paris Conservatory at a mere nine years old. The work itself, based on an 1846 novella by the same name, was revolutionary in that it demolished the previously standard notion

that French Opera was limited to flat, comic characters. The main character, considered one of the most well developed figures in all of music, flirts about with Zuniga and Escamillo even after deciding upon the soldier José as her lover. The opera closes with José stabbing the title character after she throws back his ring, rejecting him after he begs for her fidelity. FTP, identify this most famous work of Georges Bizet.

**Answer:** Carmen

17. The Night of Power occurs near the end of it, while the conclusion of Sha'ban marks its beginning. Each day starts with a suhoor and it is believed that the power of demons such as the jinn are lessened over this period. Among the sects that follow it, there is a difference of opinion over whether or not the Tarawih prayer should be read, with Sunnis believing it should and Shi'ites refusing. For ten points, name this ninth month of the Islamic calendar, in which, among other things, Muslims are expected to refrain from smoking, drinking, and eating during the day.

**Answer:** Ramadan

18. The nineteenth makes reference to Pindar and begins with a metaphor about the merchandise of "The soul's Rialto," and the theme of the 29th compares the poet's lover to a tree around whom the poet's "thoughts do twine and bud / About thee, as wild vine." A garden theme and the first line "Beloved, thou hast brought me many flowers" characterize the 44th and final one. Opening with a reflection on "how Theocritus had sung," this collection was released in 1850, but written in secret from the author's husband, to whom it was dedicated. FTP, name this series of poems whose 43rd piece asks, "How do I love thee? Let me count the ways," written by Elizabeth Barrett Browning.

**Answer:** Sonnets from the Portuguese

19. At the start of the novel, she is a hostess at the Cafe Diamond, near the Kaminari Gate. This fifteen year old girl attracts the attention of the narrator of the novel, a twenty-eight year old engineer who eventually marries her because of her Western look, her resemblance to the motion picture actress Mary Pickford, and also because of her three-syllable western name. For ten points, name this girl, the female main character of a Junichiro Tanizaki novel of the same name.

**Answer:** Naomi

20. Scientific works include a landmark paper on Bloch electrons in magnetic fields, which predicts a fractal structure in magnetic field patterns, and over 50 papers published by the Center for Research on Concepts and Cognition at Indiana University, a center he directs. He also has written a verse translation of Pushkin's *Eugene Onegin*, and many other works. Most famous for a 1979 Pulitzer Prize winning book about artificial intelligence which tied together a mathematician, an artist, and a baroque composer, this is, FTP, what author of *Gödel, Escher, Bach*.

**Answer:** Douglas Hofstadter

## 2 Princeton and Columbia Bonuses, Round 8

1. It is defined as the quantity of energy needed to raise the temperature per unit mass of a substance by one degree Celsius. FTPE:

10 Name this quantity expressed by the variable  $c$ .

**Answer:** specific heat capacity

10 According to this law, the product of the specific heat and the atomic weight of a solid is a *de facto* constant.

**Answer:** Law of Dulong and Petit (either order)

10 This theorem states that a system in equilibrium at an absolute temperature will have an average energy of  $\frac{1}{2}kT$  per degree of freedom. It can be useful in predicting the specific heat of a substance.

**Answer:** equipartition of energy theorem

2. Answer these questions about a particular structure on a graph.

10 The most basic algorithm for computing a maximum one of these is Prim's algorithm. For a graph, one of these is any collection of edges such that for every node  $n$  in the graph  $G$ ,  $n$  is the endpoint of some edge in the collection.

**Answer:** spanning tree or spanning forest (accept "minimum spanning tree")

10 This man's formula gives the number of labelled spanning trees in a complete graph. He is also known for his theorem in Group Theory which states that any group of order  $n$  is a subgroup of the  $n$ -th Symmetric Group.

**Answer:** Arthur Cayley

10 Although it is not known whether there exists a linear time bound, even the naive Prim's algorithm runs in time of the order of  $n \log(n)$ , which places the minimum spanning tree problem firmly in this complexity class, which is generally expected to be easier than NP, though this is yet unproven.

**Answer:**  $\mathbb{P}$

3. Answer the following about novels with a common character, FTPE.

10 The most controversial scenes of this Nikos Kazantzakis novel show the title character nailing Mary Magdalene and committing adultery with Martha.

**Answer:** The Last Temptation of Christ

10 This author portrays Satan as a compassionate figure, God as an evil and manipulative tyrant, and Jesus as a frustrated victim caught between them in his *The Gospel According to Jesus Christ*.

**Answer:** Jose Saramago

10 In this novel, Peter, as is he leaving Rome to escape Emperor Nero's persecution of Christians, asks the titular question to Jesus, who is returning to Rome to be crucified.

**Answer:** Quo Vadis?

4. Identify some noted experiments in the history of Quantum Mechanics.

10 This example performed by two namesake German physicists demonstrated spin quantization, since all electrons were deflected by exactly the same amount, in one of two directions, rather than deflected by a continuous range of values.

**Answer:** Stern-Gerlach experiment

10 This experiment performed in 1956 demonstrated the existence of neutrinos by detecting the results of them hitting protons, creating positrons which would annihilate with electrons to cause gamma ray flashes.

**Answer:** Cowan and Reines neutrino experiment

10 Though it was not originally conceived as an experiment, Douglas Adams' Dirk Gently claimed that he had been employed to find this lost animal when a psychic had been called in to determine whether or not its waveform had collapsed.

**Answer:** Schrödinger's Cat

5. FTPE, answer the following questions about a noted Structuralist.

10 Structuralism was developed by this French anthropologist, and he would later describe those views in *Structural Anthropology*.

**Answer:** Claude Lévi-Strauss

10 Levi-Strauss wrote this book, analyzing the title institution in terms of alliances formed by males from one group marrying females of another.

**Answer:** Elementary Structures of Kinship or Les Structures élémentaires de la parenté

10 This book, the first part of the *Mythologiques*, analyzes a number of myths, beginning with one of the Bororo tribes. It's generally recognized that the particular myths are less important than the analysis methods Lévi-Strauss introduces.

**Answer:** The Raw and the Cooked or Le Cru et le cuit

6. Identify the poems by a common author from lines FTPE

10 "... my purpose holds  
to sail beyond the sunset, and the baths  
of all the western stars, until I die"

**Answer:** "Ulysses"

10 "Was there a man dismayed?  
Not tho' the soldiers knew  
Someone had blundered:  
Theirs not to make reply"

**Answer:** "The Charge of the Light Brigade"

- 10 “There hath he lain for ages, and will lie  
battening upon huge sea-worms in his sleep,  
Until the latter fire shall heat the deep”

***Answer:*** “The Kraken”

7. Identify the Byzantine Emperor from Clues FTPE

- 10 He reigned from 610-641, reorganized the Byzantine military, and whooped the bejeezus out of the Persians. He also sacked Ctesiphon and took the title “king of kings,” and also instituted the practice of calling the Emperor “Basileus.”

***Answer:*** Heraclius

- 10 He reigned from 717-741, and, after military losses to the Arabs, he instituted the practice of iconoclasm. In response, the province of Ravenna seceded from Byzantine control.

***Answer:*** Leo III (prompt on partial answer)

- 10 Ruling from 976-1025, this man led campaigns against the Arabs which returned Syria to the empire. He also invaded Bulgaria and fought for over 12 years, and, after the battle of Kleidion, he blinded 15,000 prisoners, earning him his nickname.

***Answer:*** Basil II “Bulgaroktonus,” or Basil the Bulgar-Slayer

8. Identify the Opera from clues, FTPE/

- 10 The famous “Anvil Chorus” appears in this Verdi opera, set in 15th century Spain, in which the gypsy Manrico falls in love with the duchess Aragon, who is also loved by the Count di Luna.

***Answer:*** Il Trovatore or The Troubador

- 10 In this Leoncavallo opera, the enraged husband Canio, in the guise of a clown, kills his unfaithful wife Nedda onstage.

***Answer:*** I Pagliacci

- 10 This Bizet Opera is set in Ceylon. There is a love triangle, and the famous tenor-baritone duet “Au fond du temple saint.”

***Answer:*** Les Pêcheurs de Perles or The Pearl Fishers

9. Answer these questions about the capitals of the Confederate States of America on a 5-10-15 basis.

- 5 Which large city was the capital for the Confederacy for most of the civil war?

***Answer:*** Richmond, Virginia

- 10 Which city served as the first capital of the Confederacy, from February 4, 1861 to May 29, 1861?

***Answer:*** Montgomery, Alabama

- 15 Which city was the final capital of the Confederacy, for about a week between April 3rd and April 10th, 1865?

***Answer:*** Danville, Virginia



10. Answer the following about Scott Francis' favorite slogan, FTPE.
- 10 Often positioned in the gates of entry at Nazi concentration camps was this three word German phrase designed to inspire false hope in prisoners by promising that their labor would lead to their release.  
**Answer: Arbeit Macht Frei** (prompt on “Work brings freedom” or other English translations)
- 10 An inscription of “Arbeit Macht Frei” notably overarches the entrance of the first camp to bear this name. The second camp with this name, which saw the 60th Anniversary of its liberation in January, is located at Birkenau in Poland, and had the highest death toll of all Nazi concentration camps.  
**Answer: Auschwitz**
- 10 “Arbeit Macht Frei” is also inscribed in the gate of this camp located north of Munich and in its namesake city. Completed in March 1933, it was the first Nazi concentration camp to be built.  
**Answer: Dachau**
11. For ten points each, or five if you need his most famous work, identify these scholars of international affairs who have something in common from their works.
- 10 *On Toleration and Spheres of Justice*  
 5 *Just and Unjust Wars*  
**Answer: Michael Walzer**
- 10 *The Spread of Nuclear Weapons: A Debate and Man, the State, and War*  
 5 *Theory of International Politics*  
**Answer: Kenneth Waltz**
- 10 *Revolution and War* and *Taming American Power*  
 5 *The Origins of Alliances*  
**Answer: Stephen Walt**
12. Given a group of individuals revered as prophets or saints by a certain religion, name the religion for ten points each.
- 10 Buddha, Confucius, Jesus, and of course, Victor Hugo.  
**Answer: Cao Dai**
- 10 Noah, Zoroaster, Krishna, Abraham, Moses, Buddha, Jesus, and Muhammad.  
**Answer: Bahá'í**
- 10 Nakayama Miki, a Japanese peasant women who experienced an 1838 revelation.  
**Answer: Tenrikyo**
13. Given a famous theorem, name it for ten points each.

10  $(x + y)^n = \sum_{r=0}^n \binom{n}{r} x^r y^{n-r}$ . [Quantity  $x$  plus  $y$  to the  $n$  equals the sum from  $r$  equals 0 to  $n$  of  $n$  choose  $r$  times  $x$  to the  $r$  times  $y$  to the  $n$  minus  $r$ ]

**Answer:** Binomial Theorem

10 If  $\gcd(a, m) = 1$ , then  $a^{\Phi(m)} \equiv 1 \pmod{m}$ . (Read as: if the greatest common divisor between  $a$  and  $m$  is one, then  $a$  to the phi of  $m$  is congruent to one mod  $m$ ).

**Answer:** Euler's Totient Theorem (prompt on partial answer)

10 There exists a prime  $p$  for all  $n > 1$  such that  $n < p < 2n$ .

**Answer:** Bertrand's Postulate or Chebyshev's Theorem or Chebyshev's whatever (for instance, Chebyshev's Inequality)

14. Identify these people from descriptions given in *Seinfeld* FTPE.

10 George says derisively of this man, "You could hold his head in the toilet and he'd still give you half of Europe."

**Answer:** Neville Chamberlain

10 In one episode, Elaine attempts to get the autograph of this "third tenor," whose name she had forgotten, as a gift for the Maestro. Because Pavarotti and Domingo are mentioned later in the episode, it is safe to assume that she is referring to this member of the famous operatic trio.

**Answer:** Jose Carreras

10 After George gets the tune "Master of the House" stuck in his head, Jerry tells George that this composer "went crazy from one note. He couldn't get it out of his head. I think it was an A. He kept repeating it over and over again. He had to be institutionalized." Incidentally, it was an A and he ended up drowning himself in the Rhine.

**Answer:** Robert Schumann

15. For five points each and an additional five for all five correct, identify the major American city around which these suburban counties lie.

5 Norfolk, Worcester, and Middlesex

**Answer:** Boston

5 Suffolk, Essex, and Rockland

**Answer:** New York City

5 Contra Costa, Alameda, and San Mateo

**Answer:** San Francisco

5 Dekalb, Cobb, and Douglas

**Answer:** Atlanta

5 Snohomish, Kitsap, and Pierce

**Answer:** Seattle

16. Post-impressionism is probably the most commercialized art movement of all time. Answer these questions about it FTPE:

10 Paul Cézanne, noted for still-lives and considered by many including Matisse the father of all modern painting, liked to paint landscapes of this mountain.

**Answer: Mont Sainte-Victoire**

10 While Cézanne is noted for painting the scenery of Aix-en-Provence, van Gogh is noted for his out-of-doors work in this city in the south of France.

**Answer: Arles**

10 Van Gogh's main co-worker in Arles was this artist of the *Yellow Christ*.

**Answer: Paul Gauguin**

17. Answer the following about a Chinese historical figure, FTPE.

10 Along with Shi Shiming, this rogue general led an eponymous rebellion against Emperor Xuanzhong in 755 AD.

**Answer: An Lushan**

10 The An Lushan Rebellion occurred during the rule of this dynasty, which is more often remembered for its civil service reforms and its poetry.

**Answer: Tang Dynasty**

10 The origin city of the Silk Road and capital of the Tang Dynasty, it was sacked during the An Lushan Rebellion, forcing the royal court to move to Chengdu.

**Answer: Chang'an or Xian**

18. Answer the following about someone who was the subject of many poems, FTPE.

10 Believed to be a Roman woman named Clodia, she had her name mentioned in 13 of her lover's 116 extant poems, one of which declared, "Let us live, and let us love."

**Answer: Lesbia**

10 This oft-obscene poet regularly wrote about Lesbia.

**Answer: Gaius Valerius Catullus**

10 Catullus evidently swung both ways, as he also wrote several passionate love poems about this teenage boy he was screwing.

**Answer: Juventius**

19. For the stated number of points, given creatures from Norse mythology, tell what type of creatures they are. For example, if I said Jörmungandr, you would say serpent or some equivalent. (Note to moderator: accept reasonable equivalents, but prompt on broader classifications, e.g. prompt on rodent for squirrel)

5 Hugin and Munin

**Answer: ravens (prompt on birds)**

10 Heidrun

***Answer:*** goat or she-goat

5 Fenrir

***Answer:*** wolf

10 Svadilfari

***Answer:*** stallion (accept horse)

20. For ten points each, identify these works by Latin American authors.

10 A young Mexican boy falls in love with his best friend's mom in this Jose Emilio Pacheco novella.

***Answer:*** The Battles in the Desert or Las Batallas en el Desierto

10 Six generations of the Buendía family including 23 Aurelianos and 4 Jose Arcadios are the defining characters of this novel.

***Answer:*** One Hundred Years of Solitude or Cien Años de Soledad

10 This epic of the Trueba family set in an unnamed Latin American country has three female characters with names that roughly translate to white.

***Answer:*** The House of the Spirits or La Casa de los Espíritus